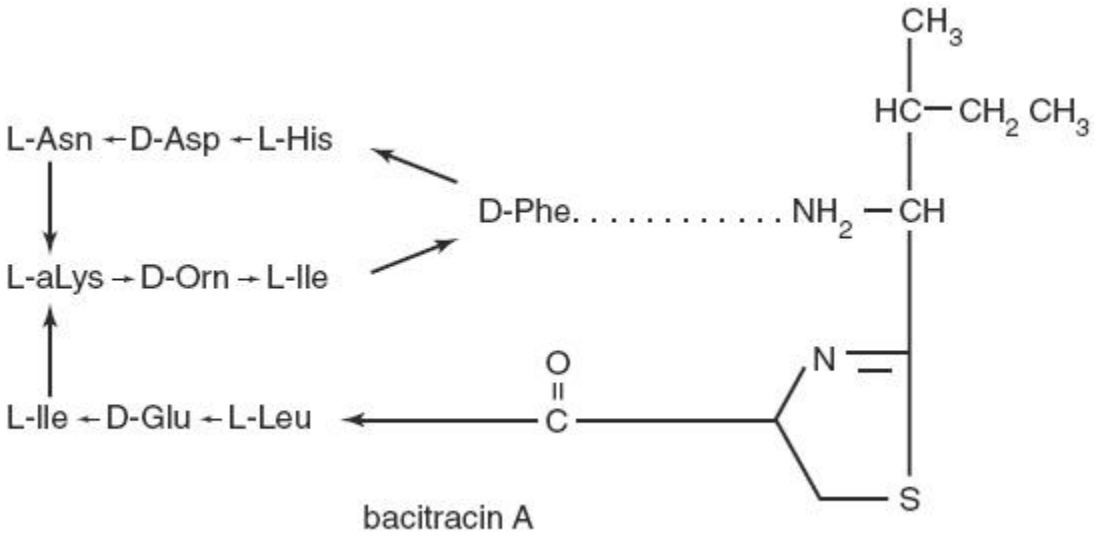
BACIIM - bacitracin injection, powder, lyophilized, for solution
X-GEN Pharmaceuticals, Inc.

SPL UNCLASSIFIED
To reduce the development of drug-resistant bacteria and maintain the effectiveness of bacitracin and other antibacterial drugs, bacitracin should be used only to treat or prevent infections that are proven or strongly suspected to be caused by bacteria.

WARNING

Nephrotoxicity: Bacitracin in parenteral (intramuscular) therapy may cause renal failure due to tubular and glomerular necrosis. Its use should be restricted to infants with staphylococcal pneumonia and empyema when due to organisms shown to be susceptible to bacitracin. It should be used only where adequate laboratory facilities are available and when constant supervision of the patient is possible.
Renal function should be carefully determined prior to and daily during therapy. The recommended daily dose should not be exceeded and fluid intake and urinary output maintained at proper levels to avoid kidney toxicity. If renal toxicity occurs the drug should be discontinued. The concurrent use of other nephrotoxic drugs, particularly streptomycin, kanamycin, polymyxin B, polymyxin E (colistin), neomycin, and viomycin, should be avoided.

DESCRIPTION
The vial content of Bacitracin for Injection USP is sterile. The therapeutic class of the drug is antibacterial and is intended for intramuscular use. Bacitracin is an antibiotic polypeptide complex and its major component is bacitracin A which has a molecular weight of 1422.7.
Each vial contains 50,000 units of bacitracin.
Bacitracin is a white to pale buff, hygroscopic powder, odorless or having a slight odor. It is freely soluble in water; insoluble in acetone, chloroform, and ether. While soluble in alcohol, methanol, and glacial acetic acid, there is some insoluble residue. It is precipitated from its solutions and inactivated by many of the heavy metals.
The structural formula is:



bacitracin A

The molecular formula is: $C_{66}H_{103}N_{17}O_{16}S$

CLINICAL PHARMACOLOGY
Bacitracin, an antibiotic substance derived from cultures of ***Bacillus subtilis*** (Tracey), exerts pronounced antibacterial action ***in vitro*** against a variety of gram-positive and a few gram-negative organisms. However, among systemic diseases, only staphylococcal infections qualify for consideration of bacitracin therapy. Bacitracin is assayed against a standard and its activity is expressed in units, 1 mg having a potency of not less than 50 units.
Susceptibility plate testing: If the Kirby-Bauer method of disk susceptibility is used, a 10 unit bacitracin disk should give a zone of over 13mm when tested against a bacitracin-susceptible strain of ***Staphylococcus aureus.*** Absorption of bacitracin following intramuscular injection is rapid and complete. A dose of 200 or 300 units/kg every 6 hours gives serum levels of 0.2 to 2 mcg/mL in individuals with normal renal function. The drug is excreted slowly by glomerular filtration. It is widely distributed in all body organs and is demonstrable in ascitic and pleural fluids after intramuscular injection.

INDICATIONS AND USAGE

In accord with the statements in the “Warning Box” the use of intramuscular bacitracin is limited to the treatment of infants with pneumonia and empyema caused by staphylococci shown to be susceptible to the drug.

To reduce the development of drug-resistant bacteria and maintain the effectiveness of bacitracin and other antibacterial drugs, bacitracin should be used only to treat or prevent infections that are proven or strongly suspected to be caused by susceptible bacteria. When culture and susceptibility information are available, they should be considered in selecting or modifying antibacterial therapy. In the absence of such data, local epidemiology and susceptibility patterns may contribute to the empiric selection of therapy.

CONTRAINDICATIONS

This drug is contraindicated in those individuals with a history of previous hypersensitivity or toxic reaction to it.

PRECAUTIONS

General

Prescribing bacitracin in the absence of a proven or strongly suspected bacterial infection or a prophylactic indication is unlikely to provide benefit to the patient and increases the risk of the development of drug-resistant bacteria.

See "Warning Box" for precautions in regard to kidney toxicity associated with intramuscular use of bacitracin.

Adequate fluid intake should be maintained orally, or if necessary, by parenteral method.

As with other antibiotics, use of this drug may result in overgrowth of nonsusceptible organisms, including fungi. If superinfection occurs, appropriate therapy should be instituted.

Information for Patients

Patients should be counseled that antibacterial drugs including bacitracin should only be used to treat bacterial infections. They do not treat viral infections (e.g., the common cold). When bacitracin is prescribed to treat a bacterial infection, patients should be told that although it is common to feel better early in the course of therapy, the medication should be taken exactly as directed. Skipping doses or not completing the full course of therapy may (1) decrease the effectiveness of the immediate treatment and (2) increase the likelihood that bacteria will develop resistance and will not be treatable by bacitracin or other antibacterial drugs in the future.

ADVERSE REACTIONS

Nephrotoxic reactions. Albuminuria, cylindruria, azotemia. Rising blood levels without any increase in dosage.

Other reactions. Nausea and vomiting. Pain at site of injection. Skin rashes.

DOSAGE AND ADMINISTRATION

TO BE ADMINISTERED INTRAMUSCULARLY ONLY

Infant dose: For infants under 2500 grams – 900 units/kg/24 hours in 2 or 3 divided doses. For infants over 2500 grams – 1,000 units/kg/24 hours, in 2 or 3 divided doses. Intramuscular injections of the solution should be given in the upper outer quadrant of the buttocks, alternating right and left and avoiding multiple injections in the same region because of the transient pain following injection.

Preparation of Solutions – Should be dissolved in sodium chloride injection containing 2 percent procaine hydrochloride. The concentration of the antibiotic in the solution should not be less than 5,000 units per mL nor more than 10,000 units per mL.

Diluents containing parabens should not be used to reconstitute bacitracin; cloudy solutions and precipitate formation have occurred.

Reconstitution of the 50,000 unit vial with 9.8 mL of diluent will result in a concentration of 5,000 units per mL.

Parenteral drug products should be inspected visually for particulate matter and discoloration prior to administration, whenever solution and container permit.

HOW SUPPLIED

Bacitracin for Injection USP is available in vials containing 50,000 units.

NDC 39822-0277-5. Boxes of ten vials use NDC 39822-0277-2.

Store the unreconstituted product in a refrigerator 2° to 8°C (36° to 46°F). Solutions are stable for one week when stored in a refrigerator 2° to 8°C (36° to 46°F).

Manufactured for:
X-Gen Pharmaceuticals, Inc.
Northport, NY 11768
Revised December 2003
BIM-PI02

PACKAGE LABEL.PRINCIPAL DISPLAY PANEL

NDC 39822-0277-5
BACiiM
(Bacitracin for Injection, USP)
50,000 Units/vial

For Intramuscular Use
Rx Only
1 Vial
X-GEN Pharmaceuticals, Inc

NDC 39822-0277-2
BACiiM
(Bacitracin for Injection, USP)
50,000 Units/vial
For Intramuscular Use
Rx Only
10 Vial/Carton
X-GEN Pharmaceuticals, Inc